UTAH SAFETY BELT OBSERVATIONAL SURVEY

JUNE 2005 REPORT

INTRODUCTION

Motor vehicle crashes continue to needlessly dominate mortality records in Utah as one of the leading causes of death. According to the National Highway Traffic Safety Administration (NHTSA), deaths and serious injuries caused by motor vehicle crashes could be reduced by approximately 50% with proper and consistent use of safety belts. To help increase safety belt use, traffic safety advocates have used a combined approach which involves legislation, public information and education efforts and enforcement.

In 1986, the first safety belt use law was enacted in Utah and required all front seat passengers and the driver to use safety belts. Since that time the law has gone through several revisions and currently states that all drivers and passengers must use safety belts. The law is secondary for people ages 19 and older and primary for people under 19 years of age. In addition, children under the age of five must be restrained in an appropriate child safety seat.

Educational and enforcement programs are also used to increase awareness of the importance of safety belts. Public education efforts include training, presentations, media campaigns, safety fairs, and high visibility enforcement efforts. These activities are conducted by the Utah Highway Safety Office (UHSO), state and local health departments, hospitals, law enforcement agencies, businesses and other partnering agencies committed to making Utah's roads safer.

To determine the effectiveness of these legislative and preventative efforts, a survey has been conducted each year since 1986 to measure safety restraint usage rates. The survey results show that these efforts have been effective in increasing safety belt use. Utah's safety belt usage rate has increased from 18% in 1986 to the current rate of 86.9% (Figure 1).

BACKGROUND

In 1991, the NHTSA established guidelines for conducting safety belt use surveys, which gave the states much discretion in survey design and implementation. In 1998, these guidelines were changed when the Secretary of Transportation was directed to allocate, over a 5-year period, funds to states whose safety belt use rates meet certain requirements. The allocations to states are based on savings in medical costs to the federal government because of a use rate higher than the national average or from an increase in their reported use rates. To determine this allocation, the states needed to conduct an annual survey which meets the new criteria.

The NHTSA requires that states exclude no more than 15 % of its population. The census for the year of 2000 was 2,233,169, which was used to help determine the counties to be studied. With over 76% of the state's population living within four counties clustered against the Wasatch Mountains, this leaves the remaining 25 counties with less than 24% of the population. In turn, the six most populated counties (Cache, Davis, Salt Lake, Utah, Washington, and Weber) were selected for the survey.

An overview of the survey methodology is included on page 4 of this report.

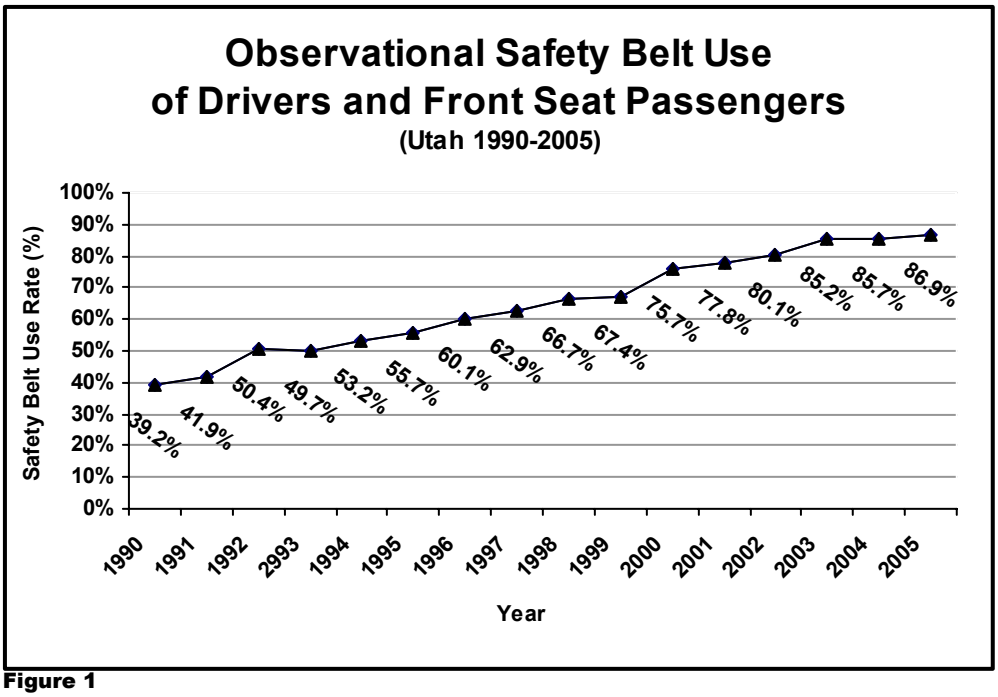

Figure 1

RESULTS

The results of this study show the overall safety belt use rate for Utah, as well as the use rate for each of the 6 counties surveyed. The use rates for female and male occupants are also provided for comparison as well as the rates as seen on interstates versus local roadways.

A total of 63,768 drivers and front seat passengers were observed. Overall safety belt usage for all vehicle types was determined to be **86.9%**. This estimate has a margin of error of +/- 0.26%, well within NHTSA specifications of +/- 5%. The rate demonstrates an increase of 1.2% from the 2004 usage rate.

Figure 2 shows the safety belt usage rates for the 2004 and 2005 studies for the six counties surveyed. Five of the six counties surveyed increased their usage rates from the previous year.

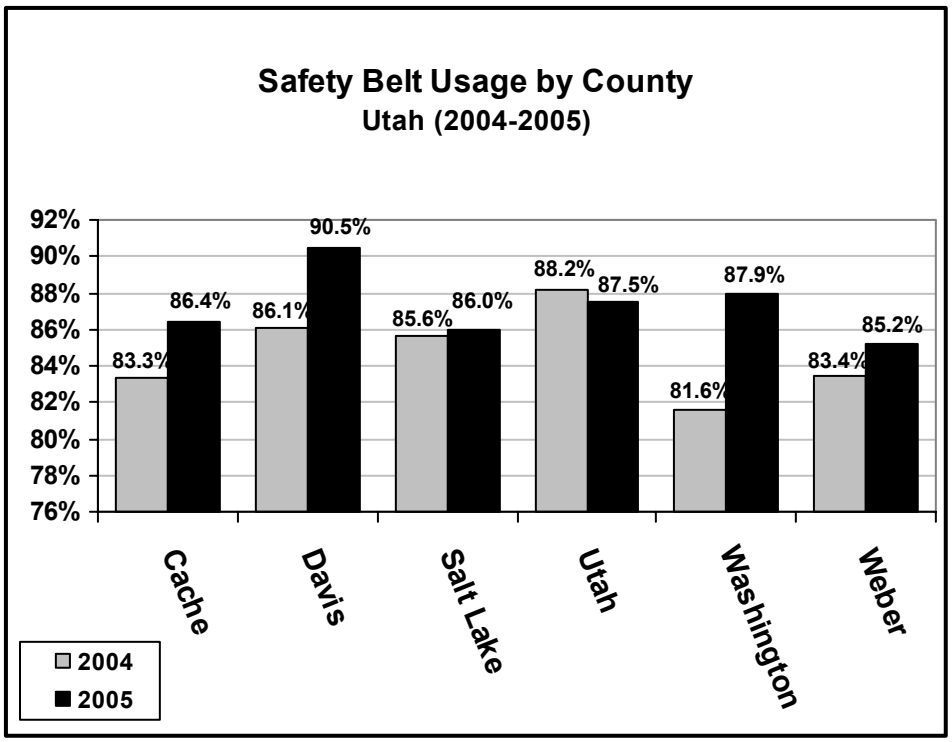

Figure 2

Gender by County

When comparing belt use among male and female drivers and front seat passengers, it was determined that females were more likely to wear safety belts than males. Females used seat belts 90.4% of the time, whereas 85.0% of males buckled up. These results are consistent with prior studies and can be observed in the six counties surveyed. The results for male and female occupants are summarized by county in Tables 1 and 2 below along with the 2004 results for comparison.

Road Type by County

When comparing safety belt use among drivers and front seat passengers on highways and local roadways, it was determined that more people used safety belts while traveling on highways when compared to local roadways. On highways, 89.5% of people used seat belts, whereas 85.4% of people buckle up on local roadways. These results are consistent with prior studies and can be observed in the counties surveyed (see Table 3).

Table 3 does not include a usage rate for highways in Cache County since the Utah Department of Transportation's roadway database does not show any major highways in that county. All roads selected for observation in Cache County were considered to be local.

Table 1: Safety Belt Use Among MALE Occupants by County (2004-2005)

County	2004 Rate	2005 Rate
Cache	78.7%	**83.2%**
Davis	85.2%	**89.2%**
Salt Lake	83.3%	**83.3%**
Utah	85.6%	**85.4%**
Washington	77.0%	**85.0%**
Weber	81.3%	**82.9%**
OVERALL	**82.5%**	**85.0%**

Table 2: Safety Belt Use Among FEMALE Occupants by County (2004-2005)

County	2004 Rate	2005 Rate
Cache	89.1%	**90.6%**
Davis	87.3%	**92.1%**
Salt Lake	88.5%	**89.3%**
Utah	91.5%	**90.1%**
Washington	88.2%	**91.7%**
Weber	86.1%	**88.3%**
OVERALL	**88.3%**	**90.4%**

Table 3: County Safety Belt Use by Road Type

County	Local Roadway	Highway
Cache	86.4%	n/a
Davis	88.1%	92.1%
Salt Lake	85.6%	86.6%
Utah	84.5%	89.2%
Washington	85.6%	89.5%
Weber	82.3%	88.8%
OVERALL	**85.4%**	**89.5%**

CHILD RESTRAINT USAGE

Background

The UHSO has been conducting child restraint observational studies since 1984. The ages of children observed in these studies has varied throughout the years in order to mirror changes in Utah's safety restraint law. Between 1984 and 1990, children under the age of five were observed for child safety seat or safety belt use. In 1991, methodology changed to include children to age eight and in 1997 the survey was changed to include children to age ten.

To specifically measure child safety seat usage among children, child occupants ages 0-2 years were observed for child seat use between 1986 and 2002. In 2000, the Utah legislature upgraded the law to make child safety seat use mandatory for children through age 4. This was an important step in improving the state's child passenger safety law since all safety experts recommend that children ride in an appropriate safety seat until they are approximately 80 pounds or age 8.

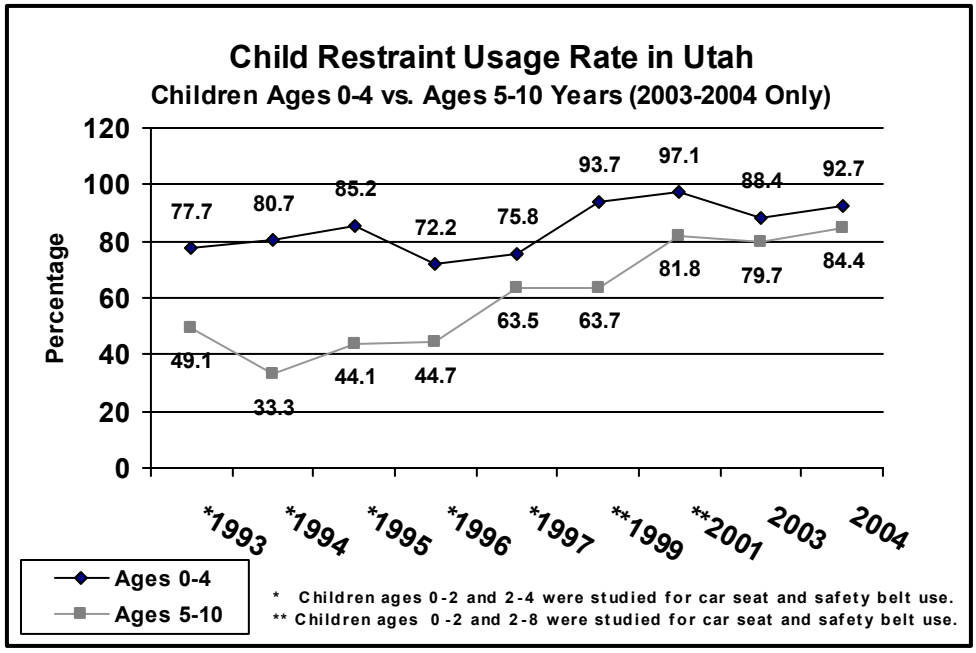

Figure 3

To accommodate the law and child safety seat recommendations, it was determined that the methodology needed to be changed, once again. Starting in 2003, children ages four and younger were observed for child safety seat use and children ages 5-10 were observed for child seat or safety belt use. Figure 3 shows the trend of safety restraint use among children between 1993 and 2004. Unfortunately, child restraint usage was not studied in 1998, 2002 and 2005 due to funding constraints. In addition, recent changes in the age group to be observed for child safety seat use makes it difficult to compare the 2003 and 2004 child restraint survey with previous surveys.

Methodology

The NHTSA does not require states to conduct child restraint observational studies and does not provide criteria or approve methodology for conducting these studies. To ensure the results are accurate, the UHSO chose to follow the safety belt survey guidelines established by NHTSA in 1998.

A summary of the survey guidelines are as follows: children ages 0-10 were observed for restraint use in the six selected counties; children ages 0-4 were observed for child safety seat use and children ages 5-10 were observed for child safety seat OR safety belt use; safety restraint use among children was observed for 40 minutes at 27 sites per county; only local roadways with speed limits of 40 miles per hour or less were selected; the days of the week, time of day, direction of vehicle travel, and specific location chosen for observation were randomly selected; to assure both child restraint and safety belt surveys were not conducted on the same day, the days in which adult safety belt use were being studied were excluded; passenger cars, pickup trucks, vans, and sport utility vehicles were observed; all seating positions in the vehicle were eligible for observation if the surveyor could positively identify restraint use or non-use.

Table 4: Child Restraint Use by Age - 2004

County	0-4 Yrs	5-10 Yrs	0-10 Yrs
Cache	87.8%	85.2%	86.2%
Davis	97.5%	89.9%	93.0%
Salt Lake	93.8%	83.2%	87.5%
Utah	93.4%	84.4%	87.9%
Washington	82.0%	79.9%	80.6%
Weber	93.5%	81.9%	85.8%
OVERALL	**92.7%**	**84.4%**	**87.7%**

Results

During the 2004 study, 4,620 children under the age of 10 were observed for safety restraint use. The use rate for this age group was found to be **87.7%**. When comparing age groups, safety restraint usage decreased among older children. The results show that **92.7%** of children under five years were restrained in a child safety seat, whereas only **84.4%** of children ages 5-10 were restrained in a safety seat or seat belt. Table 4 shows a breakdown of child seat use by age group for each county.

SURVEY METHODOLOGY

Sample Selection
Road segments were defined by data from the Utah Department of Transportation (UDOT). It was determined that there was an average of 282 road segments in each of the 6 sampled counties. Through random selection, 27 state road segments in each county (162 total) were selected for observation. The 27 road segments within each county were defined as rural or urban roadways and were randomly selected with probabilities of selection corresponding to vehicle miles traveled (VMT). In addition, a day of week, time of day, and direction of travel were randomly selected for each road segment.

Day of Week and Time of Day
A day of the week was randomly selected with no more than six sites being observed for 40 minutes in a single day. All time periods were during daylight hours, starting at 7:30 AM and ending at 4:30 PM. To minimize travel time and distance traveled, sites were grouped into geographic clusters.

Sample Size
To determine sample size, based on previous surveys, it was estimated that approximately 15,000 observations would need to be acquired from the 162 sites for a single survey in order to meet the required accuracy of an approximate marginal error of less than 1%, at a 95% confidence.

Data Collection
Each site included a specific road segment using a mile post, time of day, day of week, and direction of travel. All passenger cars, pickup trucks, vans, and sport utility vehicles were observed for a period of 40 minutes at each site. Commercial trucks and motor homes were excluded. Only drivers and front outboard passengers were observed. All lanes of traffic traveling in the predetermined direction of travel were observed. Observers were trained using a Field Observer's Instruction Manual and were provided with survey observation forms and information on each of the 162 sites to help locate the exact location to be observed.

Statistical Analysis
Completed data collection forms were returned to the UHSO where the data was entered into an electronic format and provided to a statistician for analysis.

CONCLUSIONS

- The weighted statewide result for 2005 is 86.9% +/- 0.26%.
- Seatbelt use on local roads in Washington County is up 9.25 percentage points over 2004.
- Seatbelt use on Salt Lake County highways is down 4.6 percentage points compared to 2004.
- Drivers and front seat passengers in Davis County have the highest seatbelt use rate at 90.46% +/-0.5%.
- Weber County has the lowest rate of seatbelt use at 85.2% +/-0.7%.
- Statewide, seatbelt use on highways (89.5% +/-0.3%) exceeds seatbelt use on local roads (85.43% +/-0.4%) by four percentage points.
- Seatbelt use among males in Washington County (84.98% +/-0.9%) is up by eight percentage points over 2004.
- Seatbelt use among males in Weber County (82.96% +/-0.9%) is up significantly over 2004 (81.3%) but is the lowest rate among males statewide (85.0% +/-0.4%).
- Females in Davis County (92.06% +/-0.7%) have the highest seatbelt use rate among females statewide (90.35% +/-0.3%).
- Seatbelt use among female drivers and front seat passengers in Davis County improved 4.7 percentage points over 2004.
- No data for seatbelt use by children is available for 2005.

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